

# NCDOT GIS Architectural Standards

V2 (March 3, 2016)

GIS: *Esri ArcGIS Platform (v10.5 Patch X)*

*Note: This include Esri's Roads and Highways product for the maintenance and integration with NCDOT's centerline spatial inventory system*

- GIS applications shall conform to the "NCDOT Technical Architecture Specifications"
- GIS services shall be accessible using the HTTPS protocol.
- GIS data loading, editing, and usage functions shall be implemented as web services.
- GIS data loading and editing functions shall require a, securely authenticated, authorized user to allow access.
- GIS clients shall support integration with OGC compliant services, *ArcGIS server* services, and *ArcGIS Online* services.
- GIS services shall be compatible with Esri's *ArcGIS Desktop* and *ArcGIS Online*, and *ArcGIS API for JavaScript* viewers.
- Anonymous GIS services may be made accessible using HTTP.
  - Many web applications running as an anonymous user do not support HTTPS. To provide a better user experience through the reduction of security warnings, map services, accessed anonymously, may be made accessible using HTTP.
- GIS data stores and services used for the collection and maintenance of data shall be separated from data stores used for the publication and analysis of data.
  - Separating the two environment (editing and publication) helps to ensure availability, and reliability of each environment for its intended purpose.
- GIS software shall be delivered as a self-contained Windows installer file compatible with *msiexec.exe*, *SCCM*, and *PowerShell DSC*.
- GIS software installers shall support a "silent install" process with full command line parameterization.
- Automated unit test, system test, and regression test suites shall be provided with any custom software.
- End-user user interface testing may be excluded from automated testing providing there is sufficient business logic testing to ensure all business logic is correct and complete.

*Note: These standards apply to Open Source as well as Esri based solutions.*